

Customer No.: 31561
Application No.: 10/707,609
Docket No.: 10073-US-PA

AMENDMENTS

FOR THE CLAIMS

Claim 1. (Currently amended) A flip chip package structure, comprising:

a chip having a first bump-positioning region;

a substrate having a second bump-positioning region, at least a first hole and a plurality of second holes, wherein the first hole and the second holes are located within the second bump-positioning region, and the first hole has a depth greater than the second holes;

at least a first bump arranged between the first bump-positioning region of the chip and the second bump-positioning region of the substrate, wherein the first bump and the substrate are bonded together via the first hole; and

a plurality of second bumps arranged between the first bump-positioning region of the chip and the second bump-positioning region of the substrate, wherein the second bumps and the substrate are bonded together via the second holes;

wherein the first bump has a volume larger than a volume of the second bump.

Claim 2. (original) The flip chip package structure of claim 1, wherein when there is one first bump and one first hole, the first bump is located in the middle of the first bump-positioning region of the chip and the first hole is located in the middle of the second bump-positioning region.

Claim 3. (original) The flip chip package structure of claim 1, wherein when there are two first bumps and two first holes, the two first bumps are positioned between the chip and the substrate and symmetrical relative to a centroid of the first bump-positioning

Customer No.: 31561
Application No.: 10/707,609
Docket No.: 10073-US-PA

region, and the two first holes are positioned in the second bump-positioning region and symmetrical relative to a centroid of the second bump-positioning region.

Claim 4. (original) The flip chip package structure of claim 1, wherein the package structure has a plurality of first bumps and the first bumps are located close to corners of the first bump-positioning region and located between the chip and the substrate, and the substrate has a plurality of first holes and the first holes are positioned close to corners of the second bump-positioning region.

Claim 5. (original) The flip chip package structure of claim 1, wherein the first bump arranged between the chip and the substrate physically but not electrically connects the chip and the substrate.

Claim 6. (original) The flip chip package structure of claim 1, wherein the first bump arranged between the chip and the substrate electrically and physically connects the chip and the substrate.

Claim 7. (original) The flip chip package structure of claim 1, further comprising a filler material disposed between the chip and the substrate and encapsulating the first bumps and the second bumps.

Claims 8-14. Cancelled.

Claim 15. (currently amended) The flip chip package structure of claim 18, wherein the first bump further comprises:

- a conductive pillar arranged on the chip; and
- a soldering block arranged on the conductive pillar.

Claim 16. (currently amended) The flip chip package structure of claim 18,

Customer No.: 31561
Application No.: 10/707,609
Docket No.: 10073-US-PA

wherein the first bump has a height ranging from about $150 \mu m$ to about $200 \mu m$.

Claims 17-26. Cancelled.

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

☒ BLACK BORDERS

☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES

☐ FADED TEXT OR DRAWING

☒ BLURRED OR ILLEGIBLE TEXT OR DRAWING

☐ SKEWED/SLANTED IMAGES

☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS

☐ GRAY SCALE DOCUMENTS

☒ LINES OR MARKS ON ORIGINAL DOCUMENT

☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY

☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.